

Trees and shrubs.—The second part of the second volume has followed⁵⁵ the first part promptly, and is devoted to species of *Crataegus* and *Viburnum*. SARGENT describes 10 new species of *Crataegus*, 7 of which are from Missouri; while REHDER presents and illustrates 13 species of *Viburnum* from China and Japan, 3 of which are new. The species of *Viburnum* are followed by a synopsis of the genus as displayed in eastern Asia, 65 species being recognized under 9 sections, and 9 of these species are new.—J. M. C.

Cytology of geotropism.—GEORGEVITCH contributes little that is new by his study of the cytology of roots of *Lupinus albus* when stimulated by gravity.⁵⁶ He correlates, much as NĚMEC did, though with differences in detail, the aggregation of the protoplasm and the position of the nucleus with geotropic stimulation, and so practically settles the fact that there are observable differences in the cell contents of normal and stimulated roots. It is not possible, however, to say what these mean.—C. R. B.

Sexuality in Ceratiomyxa.—OLIVE⁵⁷ has shown that the cleavage of the plasmodium of *Ceratiomyxa* to form spores is progressive and not simultaneous, as claimed by FAMINTZIN and WORONIN. Toward the close of the cleavage stage there is a fusion of nuclei in pairs, followed almost immediately by synapsis and two rapidly succeeding divisions, which are regarded by the author as reduction divisions, and give rise to four-nucleate spores.—CHARLES J. CHAMBERLAIN.

Dumortiera autoicous.—ERNST reports in a preliminary paper⁵⁸ that Javanese material of *Dumortiera trichocephala* (commonly) and *D. velutina* (sparingly) have both antheridia and archegonia on the same receptacle, though on different lobes. A single instance of the same thing has been observed (hitherto unpublished) by Dr. W. J. G. LAND, of the University of Chicago, in Mexican material of *D. hirsuta* collected at Xalapa, V. C.—C. R. B.

Anatomy of Isopyrum.—HOLM⁵⁹ has added *Isopyrum biternatum* to his anatomical records, including with the anatomical details a discussion of geographical distribution and generic limitations.—J. M. C.

⁵⁵ SARGENT, C. S., *Trees and shrubs*. Illustrations of new or little known ligneous plants, prepared chiefly from material at the Arnold Arboretum of Harvard University. Vol. II. Part. II. pp. 57-116. pls. 126-150. Boston and New York: Houghton, Mifflin, & Co. 1908. \$5.00.

⁵⁶ GEORGEVITCH, PETER M., *Cytologische Studien an den geotropisch gereizten Wurzeln von Lupinus albus*. Beihefte Bot. Cent. 22¹:1-20. pl. 1. 1907.

⁵⁷ OLIVE, EDGAR W., *Cytological studies on Ceratiomyxa*. Trans. Wis. Acad. Sci. 15:753-773. pl. 47. 1907.

⁵⁸ ERNST, A., *Ueber androgyne Inflorescenzen bei Dumortiera*. Ber. Deutsch. Bot. Gesells. 25:455-464. pl. 13. 1907.

⁵⁹ HOLM, THEO., *Isopyrum biternatum* T. & G.; an anatomical study. Am. Jour. Sci. IV. 25:133-140. figs. 3. 1908.